IN THE SPECIFICATION

Please amend paragraphs 14, 20, 42, 45, 58, 60, 75, and 85 as follows:

[0014] Figures 3A, B illustrate an isometric view of an electrochemical acidification cell~~.~~;

[0020] Figure 9 graphically illustrates chlorine dioxide concentration as a function of time produced using an aqueous halogen or halogen feedstream of calcium hypochlorite; and~~.~~

[0042] In another embodiment, the active metal catalyst and active metal oxides are transition metals of Group 8 of the Periodic Table of Elements,,~~or~~ mixtures or alloys of at least one of the foregoing transition metals and a less active metal or metal oxide ~~of~~ ~~a~~ including metals from Groups of 4a, 4b, 5b, 6b, and 7 of the Periodic Table of Elements, or mixtures~~,~~ or alloys of at least one of the foregoing metals. Preferably, the molar ratio of the active metal catalyst to the less active metal catalyst is of about 0.3:1 to about 100:1. More preferably, the molar ratio of the active metal catalyst to the less active metal catalyst is about 10:1.

[0045] The permselective membranes, e.g., 41, 42, preferably contain acidic groups so that ions with a positive charge can be attracted and selectively passed through the membrane in preference to anions. Preferably, the permselective membranes contain strongly acidic groups, such as $R\text{-}SO_3^-$ and are resistant to oxidation and temperature effects. In a preferred embodiment, the permselective membranes are fluoropolymers that are substantially chemically inert to chlorous acid and the materials or environment used to produce the chlorine dioxide. Examples of suitable permselective membranes include perfluorosulfonate cation exchange membranes commercially available under the trade name NAFION ~~commercially available~~ from E.I. duPont de Nemours, Wilmington, DE.

[0058] Apparatus 204 generates a feedstream containing dissolved chlorine-containing material. The apparatus 204 includes at least one cartridge 206 filled with the solid phase chlorine-containing material 208 and disposed within a container 210 that is

partially filled with water 212. A lower portion of the cartridge includes fluid passageways 214 (as shown by dotted line) for permitting water to enter the lower portion of the cartridge 206. The vessel 210 further includes an outlet 214 in fluid communication with the water 212. The system 200 further includes a water inlet 216 disposed above the water line 218 and a float valve 220 or other means for monitoring the level of the water. The float valve 220 is in operative communication with the inlet 216 to maintain the water at a predetermined level. An optional pump 222 is employed for regulating the flow rate of the dissolved solid phase chlorine-containing material from the vessel. During operation, dry solid phase chlorine-containing material is gravity fed to the submerged portion as the wetted solid phase chlorine-containing materials dissolve. Exhaustion of the solid phase material ~~204~~208 can be easily monitored and a replacement cartridge can be installed or replacement tablets can be inserted into the cartridge to provide a continuously saturated solution.

[0060] The contact area per volume of solution, e.g., surface area of the chlorine-containing material divided by the volume of the surrounding solution, will vary greatly depending on the shape and density of the material. For example, a volume of granular material will have a specific surface area much greater than that of a 2.54 cm diameter tablet or a 7.62 cm diameter puck. The contact area per unit volume of solution is preferably about 0.0002 to about 3.14 cm^{-1}, with about 0.002 to about 0.628 cm^{-1} more preferred, and with about 0.02 to about 0.31 cm^{-1} even more preferred.

[0075] Each tablet of calcium hypochlorite has a 1.9 cm diameter, a height of 1.3 cm and a total weight of 7.0 grams. The amount of inert ingredients contained in the tablets was reported to be 35 (w/w) %. As total of 21 calcium hypochlorite tablets were stackedly arranged in a 30.5 cm long PVC pipe having a 2.5 cm diameter and configured as described in Example 2. The system was operated for a period of 40 hours.

[0085] In this example, chlorine dioxide was generated by first converting sodium chlorite to chlorous acid using an electrochemical acidification cell as shown in Figure 2, and then ~~mixed~~ the chlorous acid was mixed with a solution of trichloroisocyanurate

using the apparatus as generally shown in Figure 8. The reaction is believed to proceed along the reaction pathway as previously shown by Equation (VI) above.